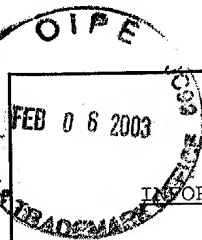


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FORM PTO-1449

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ATTY. DOCKET NO.
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09/599,594APPLICANT
Nazarenko et al.FILING DATE
June 22, 2000GROUP
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|------------------|-----|-----------------|------------|---------------------|-------|-----------|-------------|
| | AA1 | 4,358,535 | 11/09/1982 | Falkow et al. | 435 | 5 | 12/08/1980 |
| | AB1 | 4,446,237 | 05/01/1984 | Berninger | 436 | 504 | 03/27/1981 |
| | AC1 | 4,563,417 | 01/07/1986 | Albarella et al. | 435 | 6 | 01/07/1986 |
| | AD1 | 4,581,333 | 04/08/1986 | Kourilsky et al. | 435 | 6 | 04/29/1982 |
| | AE1 | 4,582,788 | 04/15/1986 | Erlich | 435 | 6 | 01/07/1983 |
| | AF1 | 4,582,789 | 04/15/1986 | Sheldon, III et al. | 435 | 6 | 12/18/1984 |
| | AG1 | 4,683,194 | 07/28/1987 | Saiki et al. | 435 | 6 | 03/28/1985 |
| | AH1 | 4,683,202 | 07/28/1987 | Mullis | 435 | 91 | 10/25/1985 |
| | AI1 | 4,889,818 | 12/26/1989 | Gelfand et al. | 435 | 194 | 06/17/1987 |
| | AJ1 | 4,965,188 | 10/23/1990 | Mullis et al. | 435 | 6 | 06/17/1987 |
| | AK1 | 5,047,342 | 09/10/1991 | Chatterjee | 435 | 194 | 08/10/1989 |

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|------------------|-----|-----------------|------------|---------|-------|-----------|-------------|
| | AL1 | EP 0 50,424 | 09/24/1981 | Europe | | | Yes No |
| | AM1 | EP 0 84,796 | 01/11/1983 | Europe | | | Yes No |
| | AN1 | EP 0 144 914 | 11/29/1984 | Europe | | | Yes No |
| | AO1 | EP 0 119 448 | 02/10/1984 | Europe | | | Yes No |
| | AP1 | EP 0 201 184 | 03/27/1986 | Europe | | | Yes No |

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| | | |
|----|---|---|
| AR | 1 | Abe, T., et al., "Specific inhibition of influenza virus RNA polymerase and nucleoprotein gene expression by circular dumbbell RNA/DNA chimeric oligonucleotides containing antisense phosphodiester oligonucleotides," <i>FEBS Lett.</i> 425:91-96, Elsevier Science Publishers B.V., Amsterdam, Netherlands (1998). |
| AS | 1 | Austermann, S., et al., "Inhibition of Human Immunodeficiency Virus Type 1 Reverse Transcriptase by 3'-Blocked Oligonucleotide Primers," <i>Biochem. Pharmacol.</i> 43:2581-2589, Elsevier Science, Oxford, England (1992). |
| AT | 1 | Barnes, W.M., "The fidelity of Taq polymerase catalyzing PCR is improved by an N-terminal deletion," <i>Gene</i> 112:29-35, Elsevier Science Publishers B.V., Amsterdam, Netherlands (1992). |

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APPLICATION NO.
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APPLICANT
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| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE |
|---------------------|-----|--------------------|------------|-------------------|-------|---------------|-------------|
| | AA2 | 5,079,352 | 01/07/1992 | Gelfand et al. | 536 | 27 | 05/15/1990 |
| | AB2 | 5,143,854 | 09/01/1992 | Pirrung et al. | 436 | 518 | 03/07/1990 |
| | AC2 | 5,137,814 | 08/11/1992 | Rashtchian et al. | 435 | 91 | 06/14/1991 |
| | AD2 | 5,194,370 | 03/16/1993 | Berninger et al. | 436 | 501 | 05/16/1990 |
| | AE2 | 5,244,797 | 09/14/1993 | Kotewicz et al. | 435 | 194 | 03/18/1991 |
| | AF2 | 5,252,743 | 10/12/1993 | Barrett et al. | 548 | 303.7 | 11/13/1990 |
| | AG2 | 5,270,179 | 12/14/1993 | Chatterjee | 435 | 69.1 | 01/28/1992 |
| | AH2 | 5,334,515 | 08/02/1994 | Rashtchian et al. | 435 | 91.2 | 03/29/1993 |
| | AI2 | 5,338,671 | 08/16/1994 | Scalice et al. | 435 | 91.2 | 10/07/1992 |
| | AJ2 | 5,348,853 | 09/20/1994 | Wang et al. | 435 | 6 | 12/16/1991 |
| | AK2 | 5,374,553 | 12/20/1994 | Gelfand et al. | 435 | 252.3 | 08/13/1990 |

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|---------------------|-----|--------------------|------------|---------|-------|---------------|-------------|
| | AL2 | EP 0 237 362 | 03/13/1987 | Europe | | | Yes No |
| | AM2 | EP 0 258 017 | 08/21/1987 | Europe | | | Yes No |
| | AN2 | EP 0 329 822 | 08/26/1988 | Europe | | | Yes No |
| | AO2 | WO 88/10315 | 12/29/1988 | WIPO | | | Yes No |
| | AP2 | WO 89/06700 | 07/27/1989 | WIPO | | | Yes No |

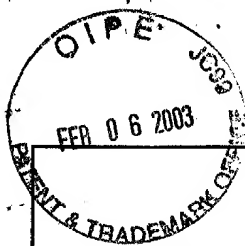
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| | AR | 2 | Bonnet, G., et al., "Thermodynamic basis of the enhanced specificity of structured DNA probes," <i>Proc. Natl. Acad. Sci. USA</i> 96:6171-6176, National Academy of Sciences of the USA, Washington, D.C. (May 1999). |
| | AS | 2 | Cardullo et al, "Detection of nucleic acid hybridization by non radiative fluorescence resonance energy transfer," <i>Proc. Natl. Acad. Sci. USA</i> 85:8790-8794, National Academy of Sciences of the USA, Washington, D.C. (1988). |
| | AT | 2 | Chedin, F., et al., "Novel homology of replication protein A in archaea: implications for the evolution of ssDNA-binding proteins," <i>TIBS</i> 23:273-277, International Union of Biochemistry and Elsevier Trends Journal, Cambridge, England (1998). |

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| | AA3 | 5,436,149 | 07/25/1995 | Barnes | 435 | 194 | 02/19/1993 |
| | AB3 | 5,436,327 | 07/25/1995 | Southern et al. | 536 | 25.34 | 10/21/1989 |
| | AC3 | 5,445,934 | 08/29/1995 | Fodor et al. | 435 | 6 | 10/30/1992 |
| | AD3 | 5,449,603 | 09/12/1995 | Nielson et al. | 435 | 6 | 10/24/1989 |
| | AE3 | 5,455,166 | 10/03/1995 | Walker | 435 | 91.2 | 01/09/1992 |
| | AF3 | 5,512,462 | 04/30/1996 | Cheng | 435 | 91.2 | 02/25/1994 |
| | AG3 | 5,578,467 | 11/26/1996 | Schuster et al. | 435 | 91.2 | 05/20/1994 |
| | AH3 | 5,587,287 | 12/24/1996 | Scalice et al. | 435 | 6 | 04/07/1994 |
| | AI3 | 5,593,840 | 01/14/1997 | Bhatnagar et al. | 435 | 6 | 06/05/1995 |
| | AJ3 | 5,594,183 | 01/14/1997 | Colin | 73 | 864.52 | 07/26/1994 |
| | AK3 | 5,595,890 | 01/21/1997 | Newton et al. | 435 | 91.2 | 02/17/1995 |

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|---------------------|-----|--------------------|------------|---------|-------|---------------|-------------|
| | AL3 | WO 90/03446 | 04/5/1990 | WIPO | | | Yes No |
| | AM3 | WO 92/06188 | 04/16/1992 | WIPO | | | Yes No |
| | AN3 | WO 92/06200 | 04/16/1992 | WIPO | | | Yes No |
| | AO3 | WO 92/14845 | 09/03/1992 | WIPO | | | Yes No |
| | AP3 | EP 0 684 315 | 03/13/1995 | Europe | | | Yes No |

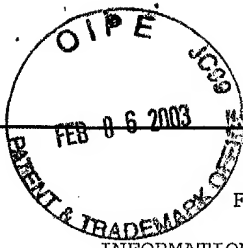
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| | AR | <u>3</u> | Clegg, R.M., et al., "Fluorescence Resonance Energy Transfer Analysis of the Structure of the Four-Way DNA Junction," <i>Biochem.</i> 31:4846-4856, American Chemical Society, Washington D.C. (1992). |
| | AS | <u>3</u> | Clegg, R.M., "Fluorescence Resonance Energy Transfer and Nucleic Acids," <i>Methods Enzymol.</i> 211:353-388, Academic Press Inc., New York, NY (1992). |
| | AT | <u>3</u> | Clegg, R.M., et al., "Observing the helical geometry of double-stranded DNA in solution by fluorescence resonance energy transfer," <i>Proc. Natl. Acad. Sci. USA</i> 90:2994-2998, National Academy of Sciences of the USA, Washington, D.C. (1993). |

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| | APPLICANT Nazarenko et al. | |
| | FILING DATE June 22, 2000 | GROUP 1645 |

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|---------------------|-----|--------------------|------------|--------------------|-------|---------------|-------------|
| | AA4 | 5,599,695 | 02/04/1997 | Pease et al. | 435 | 91.1 | 02/27/1995 |
| | AB4 | 5,605,824 | 02/25/1997 | Nielson et al. | 435 | 194 | 06/16/1993 |
| | AC4 | 5,614,365 | 03/25/1997 | Tabor et al. | 435 | 6 | 11/10/1994 |
| | AD4 | 5,639,611 | 06/17/1997 | Wallace et al. | 435 | 6 | 11/09/1994 |
| | AE4 | 5,646,019 | 07/08/1997 | Nielson et al. | 435 | 91.5 | 04/07/1994 |
| | AF4 | 5,668,005 | 09/16/1997 | Kotewicz et al. | 435 | 194 | 03/12/1996 |
| | AG4 | 5,728,526 | 03/17/1998 | George, Jr. et al. | 435 | 6 | 01/07/1995 |
| | AH4 | 5,763,170 | 06/09/1998 | Raybuck | 435 | 6 | 06/05/1995 |
| | AI4 | 5,773,257 | 06/30/1998 | Nielson et al. | 435 | 91.1 | 06/06/1995 |
| | AJ4 | 5,800,992 | 09/01/1998 | Fodor et al. | 435 | 6 | 06/25/1996 |
| | AK4 | 5,837,832 | 11/17/1998 | Chee et al. | 536 | 22.1 | 05/16/1995 |

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|---------------------|-----|--------------------|------------|---------|-------|---------------|-------------|
| | AL4 | WO 96/10640 | 04/11/1996 | WIPO | | | Yes No |
| | AM4 | EP 0 436 644 B1 | 04/17/1996 | Europe | | | Yes No |
| | AN4 | EP 0 795 612 A2 | 09/17/1997 | Europe | | | Yes No |
| | AO4 | WO 98/35060 | 08/13/1998 | WIPO | | | Yes No |
| | AP4 | WO 98/47921 | 10/29/1998 | WIPO | | | Yes No |

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| AR | <u>4</u> | Flaman, J.-M., et al., "A rapid PCR fidelity assay," Nucl. Acids Res. 22:3259-3260, Oxford University Press, Oxford, England (1994). |
| AS | <u>4</u> | Forster, Z., "Experimentelle und theoretische Untersuchung des zwischenmolekularen Übergangs von Elektronenanregungsenergie," Z. Naturforsch 4A:321-327, Verlag der Zeitschrift für Naturforschung, Tübingen, Germany (1949). |
| AT | <u>4</u> | Gerard, G.F., et al., "cDNA Synthesis by Moloney Murine Leukemia Virus Rnase H-Minus Reverse Transcriptase Possessing Full DNA Polymerase Activity," FOCUS 14:91-93, Life Technologies, Inc., Gaithersburg, MD (1992). |

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|---------------------|-----|--------------------|------------|--------------------|-------|---------------|-------------|
| | AA5 | 5,846,729 | 12/08/1998 | Wu et al. | 435 | 6 | 07/01/1997 |
| | AB5 | 5,866,336 | 02/02/1999 | Nazarenko et al. | 435 | 6 | 01/03/1997 |
| | AC5 | 5,869,251 | 02/09/1999 | Schuster et al. | 435 | 6 | 11/25/1996 |
| | AD5 | 5,876,930 | 03/02/1999 | Livak et al. | 435 | 6 | 11/15/1995 |
| | AE5 | 5,925,517 | 07/20/1999 | Tyagi, et al. | 435 | 6 | 05/12/1995 |
| | AF5 | 5,948,899 | 09/07/1999 | Arnold, Jr. et al. | 536 | 24.3 | 06/05/1995 |
| | AG5 | 5,952,172 | 09/14/1999 | Mende et al. | 435 | 6 | 06/12/1997 |
| | AH5 | 6,037,130 | 03/14/2000 | Tyagi, et al. | 435 | 6 | 07/28/1998 |
| | AI5 | 6,048,690 | 04/11/2000 | Heller et al. | 435 | 6 | 05/14/1997 |
| | AJ5 | 6,090,552 | 07/18/2000 | Nazarenko et al. | 435 | 6 | 07/11/1997 |
| | AK5 | 5,714,331 | 02/03/1998 | Buchardt et al. | 435 | 6 | 07/24/1996 |

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| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION |
|---------------------|-----|--------------------|------------|---------|-------|---------------|-------------|
| | AL5 | WO 99/10366 | 03/04/1999 | WIPO | | | Yes No |
| | AM5 | EP 0 795 612 A3 | 03/24/1999 | Europe | | | Yes No |
| | AN5 | | | | | | Yes No |
| | AO | | | | | | Yes No |
| | AP | | | | | | Yes No |

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

| | | | |
|--|----|---|--|
| | AR | 5 | Holland, P.M., et al., "Detection of specific polymerase chain reaction product by utilizing the 5'→3' exonuclease activity of <i>Thermus aquaticus</i> DNA polymerase," <i>Proc. Natl. Acad. Sci. USA</i> 88:7276-7280, National Academy of Sciences of the USA, Washington, D.C. (1991). |
| | AS | 5 | Houts, G.E., et al., "Reverse Transcriptase from Avian Myeloblastosis Virus," <i>J. Virol.</i> 29:517-522, American Society for Microbiology, Baltimore, MD (1979). |
| | AT | 5 | Idriss, H., and Stammers, D.K., "Inhibition of HIV-1 Reverse Transcriptase by Defined Template/Primer DNA Oligonucleotides: Effect of Template Length and Binding Characteristics," <i>J. Enzyme Inhib.</i> 8:91-112, Harwood Academic, Chur, New York (1994). |

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|-------------|
| | AA6 | 5,736,336 | 04/07/1998 | Buchardt et al. | 435 | 6 | 05/01/1997 |
| | AB | | | | | | |
| | AC | | | | | | |
| | AD | | | | | | |
| | AE | | | | | | |
| | AF | | | | | | |
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|---------------------|----|--------------------|------|---------|-------|---------------|-------------|
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |
| | AN | | | | | | Yes No |
| | AO | | | | | | Yes No |
| | AP | | | | | | Yes No |

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

| | | | |
|--|----|---|---|
| | AR | 6 | Jendis, J., et al., "Inhibition of Replication of Fresh HIV Type 1 Patient Isolates by a Polypurine Tract-Specific Self-Complementary Oligodeoxynucleotide," <i>AIDS Res. Human Retrov.</i> 12:1161-1168, Mary Ann Liebert, Inc., Publishers, Larchmont, NY (1996). |
| | AS | 6 | Ju, J., et al., "Fluorescence energy transfer dye-labeled primers for DNA sequencing and analysis," <i>Proc. Natl. Acad. Sci. USA</i> 92:4347-4351, National Academy of Sciences of the USA, Washington, D.C. (1995). |
| | AT | 6 | Kainz, A.P., et al., "Specificity-Enhanced Hot-Start PCR: Addition of Double-Stranded DNA Fragments Adapted to the Annealing Temperature," <i>BioTechniques</i> 28:278-282, Eaton Publishing Company, Natick, MA (February 2000). |

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|---------------------|----|--------------------|------|------|-------|---------------|-------------|
| | AA | | | | | | |
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| | AL | | | | | | Yes No |
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| | AO | | | | | | Yes No |
| | AP | | | | | | Yes No |

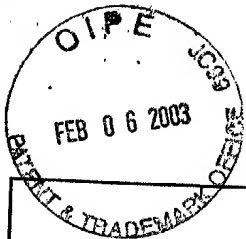
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|----|---|---|
| AR | 7 | Kelly, T.J., et al., "Identification and characterization of a single-stranded DNA-binding protein from the archaeon <i>Methanococcus jannaschii</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 95:14634-14639, National Academy of Sciences of the USA, Washington, D.C. (1998). |
| AS | 7 | Kleppe, K., et al., "Studies on Polynucleotides. XCVI. Repair Replications of Short Synthetic DNA's as Catalyzed by DNA Polymerases," <i>J. Mol. Biol.</i> 56:341-361, Academic Press, Inc., New York, NY (1971). |
| AT | 7 | Kotewicz, M.L., et al., "Isolation of cloned Moloney murine leukemia virus reverse transcriptase lacking ribonuclease H activity," <i>Nucl. Acids Res.</i> 16:265-277, Oxford University Press, Oxford, England (1988). |

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| | AA | | | | | | |
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| | AL | | | | | | Yes No |
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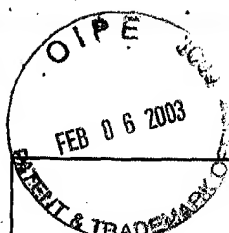
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| AR | 8 | Kuwasaki, T., et al., "Hairpin Antisense Oligonucleotides Containing 2'-Methoxynucleosides with Base-Pairing in the Stem Region at the 3'-end: Penetration, Localization, and Anti-HIV Activity," <i>Biochem. Biophys. Res. Commun.</i> 228:623-631, Academic Press, Inc., Orlando, FL (1996). |
| AS | 8 | Kwoh, D.Y., et al., "Transcription-based amplification system and detection of amplified human immunodeficiency virus type 1 with a bead-based sandwich hybridization format," <i>Proc. Natl. Acad. Sci. USA</i> 86:1173-1177, National Academy of Sciences of the USA, Washington, D.C. (1989). |
| AT | 8 | Lawyer, F.C., et al., "High-Level Expression, Purification, and Enzymatic Characterization of Full-Length <i>Thermus aquaticus</i> DNA Polymerase and a Truncated Form Deficient in 5' to 3' Exonuclease Activity," <i>PCR Meth. Appl.</i> 2:275-287, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY (1993). |

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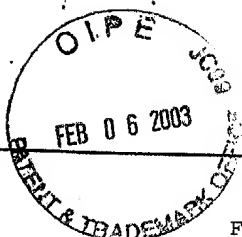
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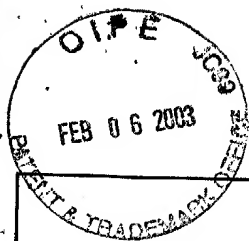
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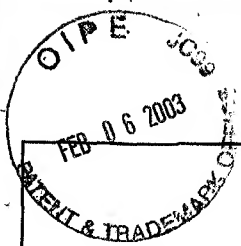
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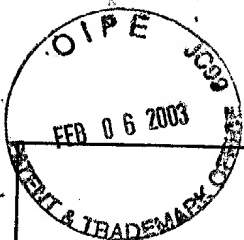
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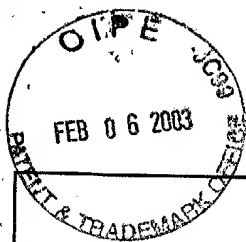
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